



**METHOD OF PREVENTING DEPLETION OF NON-AUTOLOGOUS
HEMATOPOIETIC**

CELLS AND ANIMAL MODEL SYSTEM FOR USE THEREOF

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AMENDED CLAIMS

1. A method of preventing depletion in an animal of non-autologous hematopoietic cells comprising decreasing the number of endogenous macrophages to a level effective to substantially prevent depletion of the non-autologous hematopoietic cells.
2. The method according to claim 1 wherein the non-autologous hematopoietic cells are injected into the animal.
3. The method according to claim 1 wherein the cells are made by hematopoietic tissue engrafted into the animal.
4. The method according to claim 1 wherein the macrophages are decreased by administering to the animal an effective amount of an agent which decreases the level of endogenous macrophages.
5. The method according to claim 4 wherein the agent is liposome-encapsulated dichloromethylene diphosphonate.
6. The method according to claim 1 wherein the macrophages are decreased genetically.
7. The method according to claim 1 wherein the animal is immunocompromised.
8. The method according to claim 7 wherein the animal is immunocompromised due to infection with an immunodeficiency virus.

9. The method according to claim 8 wherein the animal is human and the virus is human immunodeficiency virus.
10. The method according to claim 7 wherein the animal is immunocompromised due to radiation therapy.
11. The method according to claim 7 wherein the animal is immunocompromised due to chemotherapy.
12. The method according to claim 7 wherein the animal is selected from the group consisting humans, mice, scid/scid mice, SCID-hu mice, and CID horses.
13. The method according to claim 12 wherein the animal is a SCID-hu Thy/Liv mouse.
14. The method according to claim 7 wherein the animal is transplanted with non-autologous hematopoietic tissue.
15. The method according to claim 7 wherein the non-autologous hematopoietic cells are injected into the animal.
16. The method according to claim 7 wherein the agent is liposome-encapsulated dichloromethylene diphosphonate.
17. The method according to claim 15 wherein the animal is a human and the non-autologous hematopoietic cells are injected.
18. A method of treating an immunocompromised animal comprising administering to the animal an effective amount of non-autologous hematopoietic cells and decreasing endogenous macrophages to a level sufficient to prevent substantial depletion of the non-autologous hematopoietic cells.

19. A non-human mammal comprising human hematopoietic cells wherein the mammal contains a decreased level of endogenous macrophages sufficient to prevent substantial depletion of non-autologous hematopoietic cells.

20. The non-human mammal according to claim 19 wherein the mammal is immunocompromised.

21. The non-human mammal according to claim 19 wherein the mammal contains engrafted human hematopoietic tissue.

22. The non-human mammal according to claim 19 wherein the non-autologous hematopoietic cells are produced by the engrafted tissue.

23. The mammal according to claim 19 wherein the mammal is selected from the group consisting of SCID/SCID mice, SCID-hu Thy/Liv mice and CID horses.

24. A method of restoring hematopoietic cells to an immunocompromised human comprising the steps of administering an effective amount of human peripheral blood cells in conjunction with decreasing endogenous macrophages.

25. The method according to claim 24 wherein the immunocompromised human is infected with human immunodeficiency virus.

26. The method according to claim 25 wherein the peripheral blood cells are hematologyphoid.

27. The method according to claim 26 wherein the blood cells are T cells.

28. The method according to claim 26 wherein the blood cells are CD4⁺ T cells.

29. The method according to claim 25 wherein the peripheral blood cells are administered by direct injection into the blood stream of the human.

30. The method according to claim 25 wherein the peripheral blood cells are administered by bone marrow transplantation of hematopoietic stem cells into the human.

31. A method of improving engraftment efficiency for transplantation of a population of non-autologous hematopoietic stem cells in a host animal having an endogenous hematopoietic stem cell population, comprising the steps of ablating the endogenous hematopoietic stem cell population of the host animal and transplanting the non-autologous hematopoietic stem cells into the host animal in conjunction with decreasing endogenous macrophages in the host animal.